

4. Genital herpes

Genital herpes is a common, highly infectious disease caused by the herpes simplex virus (HSV). It is transmitted from one person to another by close personal contact, such as during sexual activity. There are 2 types of herpes: HSV-1 and HSV-2. The genital sores caused by either virus look the same. Most genital herpes infections are caused by HSV-2, and risk of infection is correlated with the number of lifetime sexual partners. Less often, HSV-1 can cause genital herpes infections through oral sexual contact. Up to 80% of HSV infections are asymptomatic. Symptomatic infections can be characterized by increased rates of morbidity and recurrence; in immunocompromised patients, infections can cause life-threatening complications.¹

Description

The average incubation period after genital acquisition of HSV-1 or HSV-2 is approximately 4 days. Primary infection of genital herpes in men is characterized by a pattern of erosive balanitis, producing substantial pain; vesicles appear in the prepuce, the shaft of the penis, and sometimes on the scrotum. The perianal area and rectum might also be involved. Herpetic urethritis occurs in 35% to 45% of affected men and is characterized by severe dysuria and mucoid discharge. In women, herpetic vesicles can appear on the external genitalia (ie, labia majora, labia minora, or vaginal vestibule), and the cervix is involved in a high percentage of cases characterized by ulcerative or necrotic cervical mucosa. The ulcerative lesions persist for 4 to 15 days until crusting and re-epithelialization occur. Fever and locoregional lymphadenopathy distinguish greater local involvement from successive relapses. Most morbidity associated with genital herpes is due to its frequent reactivation rate, which is more common in HSV-2 and in patients who have had severe primary genital herpes. Recurrent genital herpes presents as 1 or more patches of grouped vesicles on the genitals and fever; constitutional symptoms are uncommon, pain is mild, and lesions heal in 7 to 10 days. The frequency and severity of recurrences decrease with time.²

Central nervous system complications of genital herpes include aseptic meningitis, sacral radiculopathy, transverse myelitis, and benign recurrent lymphocytic meningitis.

Diagnosis

When the medical history is incomplete, the lesions are atypical, or a quick diagnosis is needed because the patient is immunocompromised, has severe or disseminate disease, or has incurred serious repercussions from a previous incorrect diagnosis or treatment, additional

tests should be ordered to confirm the diagnosis of herpesvirus (Table 1).

In patients with HSV, histology will reveal intraepidermal blistering caused by keratinocyte necrosis and grayish nuclear inclusions with a ground-glass appearance, together with chromatin margination. Multinucleated giant cells and epithelial cells containing eosinophilic intranuclear inclusion bodies can be identified with the Tzanck test. Neither test is useful in differentiating between lesions caused by HSV-1 and those caused by HSV-2. Blood tests (ie, antibody tests) are only useful in the diagnosis of primary, but not recurrent, herpes infections. In the present case, the patient was positive for HSV-2 immunoglobulin M, confirming the diagnosis of primary infection.

The criterion standard for diagnosis of an HSV infection is the isolation of the virus in tissue culture; this method can yield positive results within 48 hours of inoculation. Characteristic cytopathic effects, with ballooning of cells and cell death, are observed; immunofluorescent staining of the tissue culture cells can quickly identify HSV and can help distinguish between types 1 and 2. Viral antigen detection by direct immunofluorescence of a specimen from a fresh vesicular lesion is an economical, rapid, and sensitive diagnostic tool. Other tests examine viral genetic material using in situ hybridization or polymerase chain reaction. These tests are quick and sensitive but rarely necessary in routine practice.

The differential diagnosis for genital herpes includes syphilis, candidiasis, herpes zoster, hand-foot-and-mouth disease, chancroid, and granuloma inguinale. Primary syphilis is characterized by one or more painless, indurated ulcers occurring at the site of inoculation; chancroid ulcerations, caused by *Hemophilus ducreyi*, are typically painful, tender, nonindurated

Table 1. Laboratory tests available for the diagnosis of herpesvirus infections

TEST	EFFICACY
Histology or Tzanck test	Screens for herpesvirus in general, but is not useful in differentiating among different types of the virus
Antibody testing	Useful in the diagnosis of primary, but not recurrent, herpes infections
Tissue culture	The most specific test for diagnosis; however, it is not the most sensitive and often takes too long
Immunofluorescence	Quick, sensitive, and economical; it can distinguish between HSV types 1 and 2
PCR	Quick, sensitive, and expensive; it can distinguish between HSV types 1 and 2, but is rarely necessary in routine practice

HSV—herpes simplex virus, PCR—polymerase chain reaction.

lesions covered with gray or yellow necrotic purulent exudates. Noninfectious conditions that can mimic genital herpes include Reiter syndrome, contact dermatitis, Crohn disease, Behçet syndrome, trauma, erythema multiforme, and lichen planus.

Management

Treatment of HSV infection is centred on specific antiviral treatment. Although the same medications are active against both HSV-1 and HSV-2 infections, the location of the lesions and the chronicity of the infection (ie, primary or recurrent) dictate dosage and frequency. For initial treatment, 200 mg of oral acyclovir should be taken 5 times daily for 5 to 10 days, which should reduce the duration of viral shedding, time to crusting, and time to healing.³ In the present case, treatment with oral acyclovir for 5 days resolved the pain and the lesions.

For life-threatening HSV infections in immunocompromised patients or in patients with neurologic complications, intravenous acyclovir administered 3 times daily should be considered. Also, its derivatives—famciclovir (250 mg, 3 times daily for 5 to 10 days), penciclovir (1 topical application every 2 to 4 hours per day for 4 days), or valacyclovir (1000 mg, twice daily for 10 days)—have been shown to be safe and effective in the treatment of active disease. Acyclovir, valacyclovir, and famciclovir are all effective for the treatment or long-term suppression of recurrent episodes of genital herpes. However, topical acyclovir provides no benefit in the episodic treatment of genital herpes and is not recommended. If episodic therapy is used, it should be started at the first sign of recurrence, including during the prodromal period (if it is recognized). Several drugs, such as foscarnet, cidofovir, or trifluridine, can be used for the treatment of acyclovir-resistant cases of HSV.

Some approaches to preventing the transmission of HSV to uninfected persons are the use of condoms and antiviral suppressive therapy in the seropositive partner; however, the risk of transmission is not completely eliminated.



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Competing interests

None declared

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